

Available online at www.sciencedirect.com**ScienceDirect**

Procedia - Social and Behavioral Sciences 102 (2013) 11 – 20

Procedia
Social and Behavioral Sciences

6th International Forum on Engineering Education (IFEE 2012)

Over 10 Years of Cooperation between Universiti Kebangsaan Malaysia and University of Duisburg-Essen, Germany Case Study of the Development of A Fruitful Partnership

Abd Halim Shamsuddin^a, Axel Hunger^{b*}, Andanastuti Muchtar^c^aCollege of Engineering, Universiti Tenaga Nasional, 43000 Kajang, Selangor, MALAYSIA^bFaculty of Engineering, University of Duisburg-Essen, 47057 Duisburg, Germany^cFaculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia, 43600 UKM Bangi, Selangor, MALAYSIA

Abstract

Universiti Kebangsaan Malaysia (UKM) and University Duisburg-Essen (UDE) in Germany have a history of cooperation that spans more than 10 years. One major result of this cooperation is the establishment of double degree and exchange programmes in both universities. The key fact is that both partners collaborate on an 'eye level.' The basis for this development is the institutionalisation of the partnership by way of the UKM-Mercator Office, an outpost of UDE at UKM established in 2002, as well as the UKM International Office at UDE which opened in 2010. The establishment of these outposts has resulted in high visibility of this partnership, good employability of graduates and execution of research on different levels. These results demonstrate that synergy between teaching and research is in force.

© 2013 The Authors. Published by Elsevier Ltd. Open access under [CC BY-NC-ND license](#).

Selection and/or peer-review under responsibility of Professor Dr Mohd. Zaidi Omar, Associate Professor Dr Ruhizan Mohammad Yasin, Dr Roszilah Hamid, Dr Norngainy Mohd. Tawil, Associate Professor Dr Wan Kamal Mujani, Associate Professor Dr Effandi Zakaria.

Keywords: International cooperation, double degree programme, exchange programmes, institutionalisation, employability, global labour market.

* Corresponding author.

E-mail address: axel.hunger@uni-due.de

1. Introduction

First steps – how it all started – strategic goals

In 2000, a delegation from DAAD (German Academic Exchange Service) visited Universiti Kebangsaan Malaysia (UKM). This visit was arranged because the DAAD was exploring the possibility of establishing cooperation between Germany and Malaysia. After visiting different universities, the already existing link between Prof. Abd Halim Shamsuddin, the Dean of the Faculty of Engineering of UKM at that time, and Prof. Axel Hunger of the University of Duisburg-Essen (UDE) became the nucleus of cooperation between UKM and UDE. Towards the end of 2000, a partnership between the two universities was established with strategic goals in mind [1-3].

The Faculty of Engineering was established by UKM on 1 November 1984, with two departments from the Faculty of Physical Sciences becoming the Department of Electrical and Electronics Engineering and the Department of Chemical and Process Engineering. On 2 January 1985, two more departments were established, namely, the Department of Mechanical and Materials Engineering and the Department of Civil and Structural Engineering. As a new institution, the Faculty of Engineering faced tremendous challenges in establishing itself as an exceptional institution at both national and international levels. With the strong commitment of its faculty members, the Faculty of Engineering was able to cultivate a reputation for excellence in engineering education in Malaysia during its first 15 years. In the mid 90s, the faculty started to explore opportunities for collaboration with international institutions to expedite international recognition and standing. In April 2000, UKM hosted an official visit from DAAD during which the faculty saw an opportunity to develop international collaboration.

The early phase of the development of the collaboration encountered several challenges, namely, funding requirements and differences in the educational, cultural, language, socio-economic and political systems between Malaysia and Germany. However, in developing the collaboration between UKM and UDE, project funding was not a major issue. This collaboration was initiated at the time when the German government started to open up its educational system, encouraging German institutions to seek out international partners for collaboration, especially in developing programmes for student mobility. With UKM as a willing partner, the UDE-UKM collaboration effort was well funded by the DAAD and the European Union (EU), as well as by the Mercator Foundation. The pioneers of the programme from both sides encountered greater challenges such as differences in educational, cultural, language, socio-economic and political systems. An average of four to six visits and counter visits from both sides took place from 2001 to 2003, during which a series of meetings, workshops and discussions was held. The collaboration was initially met with scepticism from faculty members from both institutions. However, as a result of strong dedication and commitment, the collaboration between UDE and UKM produced the double degree programme, with the first two students from UKM completing their final year (Year 4) at UDE in 2003.

UKM and UDE have so far enjoyed more than 10 years of cooperation. One major outcome of this cooperation is student mobility as a result of the double degree and exchange programmes, with more or less 20 people from both institutions being mobile every year. In addition, a joint PhD programme has been launched. The extensive cooperation is based on the fact that both partners work together at eye level. The universities have acknowledged each other and identified common goals, which adds greater value to the partnership. The collaboration was supported in different ways; one was through institutionalisation by way of the UKM-Mercator Office, an outpost of UDE at UKM, established in 2002. Numerous changes occurred as the partnership matured over the years. In 2010, a liaison office at UDE, was established and called the UKM International Office at UDE, and more developments are under way.

The following chapters explain which developments resulted in the transformation of the UKM-UDE partnership into a model of excellence in terms of academic cooperation. The experiences and challenges

encountered by UKM and UDE in establishing their partnership can serve as an example and guide for other universities.

2. Experiences and development of cooperation

The collaboration between UDE and UKM began in 2000. The following are the steps taken throughout the development of the partnership:

- 1998 – 2006: Development of international degree courses at UDE
- 2001– today: Development of double degree programmes at UDE and UKM
- 2001– 2006: Institutionalisation through the establishment of the Mercator Office and the Multimedia Lab at UKM to support the partnership as well as to establish joint teaching and research
- 2007 – today: Further development of the Mercator Office from its own funds
- 2010: Establishment of the UKM International Office at UDE
- 2010 – today: Double degree PhD programmes at UDE and UKM
- 2012: Founding of Mercator Science and Education Sdn. Bhd. as an independent company in Malaysia with the aim of funding the joint study programmes and partnership between universities and industries

These developments are facilitated primarily by the faculty members of the engineering departments of both partners. In recent years, the faculty members of the Faculty of Economics, Faculty of Science and Technology, Faculty of Social Sciences became involved in the partnership and introduced specific activities. Today, they look forward to the establishment of double degree programmes, exchange programmes, double degree PhD programmes and joint research projects.

In Malaysia, numerous partnerships with foreign higher education institutions have already been established. However, the strong, decade-long partnership between UKM and UDE is unique as it involves eye-level cooperation. UKM is recognised as a research university and receives considerable support from the Malaysian government. On the educational level, mutual acceptance is provided and documented by MoUs and running programmes. In research, fields of common interest where UKM and UDE can combine their strengths have been identified. Research and development have been initiated in diverse fields of joint interest, and several projects have already been implemented in these areas. One recent project aims to institutionalise mutual cooperation on environmental issues and serve as a centre of excellence in Southeast Asia.

The UKM-UDE partnership has achieved stability and forged links between numerous people and institutions. The partnership remains open for new joint activities. This long-lasting, mutual cooperation can attract bright, new scientists to become partners in this project. Developments have been achieved step by step, keeping in mind the needs of the partners and the available opportunities. The building blocks of this development are described in the succeeding chapters.

2.1 Double Degree Programme on Bachelor level and Exchange Programmes

The teaching activities on the bachelor and master levels are

- Double degree bachelor programmes in several fields of engineering. Presently, these fields are:
 - Electrical engineering (2 profiles)
 - Mechanical engineering (1 profile)
 - Civil engineering (2 profiles)
- Student exchange (bachelor and master level)
- Exchange of guest professors on a regular basis
- Mutual visits of professors and researchers

The results (graduates, exchange students and professors, research partnerships) are positive and encouraging to all parties. The development of the double degree programmes showed varying numbers of students over the years. After some improvements in the structure of the programmes, the number stabilised to more than 12 students per year. Recently, however, more than 20 students travel from UKM to UDE each year. In total, 112 double degree UKM students travelled to UDE for their final year of study and for graduation from both universities. The number of exchange students from UDE also varied significantly over the years. In recent years, more than 20 students from UDE came to UKM for one semester. In total, 60 students from UDE stayed at UKM for one semester.

Currently, about 20 students travel from UKM to UDE (double degree bachelor level) every year. Likewise, the same number of students travels from UDE to UKM to spend a semester in Malaysia as exchange students every year. Students have provided positive feedback regarding their post-university professional life. Back in Malaysia, double degree graduates report that they are able to get jobs easily upon graduation and that multinational companies are highly receptive to their double degrees. Companies no doubt appreciate the enhanced interpersonal communication skills of the graduates. Having lived abroad and being mostly independent in handling both academic and personal matters during their university days, the graduates matured well and are generally more suited for immediate work in different industries. The UKM-UDE alumni are mostly hired by multinational companies, and they report receiving good salaries. Several graduates choose to stay in Germany to work, whereas others secure employment in other countries such as Singapore, Thailand, China and Russia. In addition, an increasing number of alumni opt to undertake postgraduate education either at UKM or UDE. As a result, strong linkages are established and networking opportunities are offered to a large group of Malaysian and German alumni for future development. These links will generate closer ties with industries as the double degree graduates find excellent and well-paid jobs in various industries in Malaysia. In addition, the common understanding and linkage between Malaysia and Germany with regard to industry cooperation is greatly supported, letting both countries benefit as they establish good economic connections [4].

Another development involves the creation of various tools to facilitate the smooth set-up and operation of the double degree and exchange programmes. These tools provide assistance in designing and maintaining the said programmes as well as the databases and platforms for the mobile students. Most of these tools are Web-based to allow the participating institutions in both partner universities to support the mobility of students based on the collection and use of all relevant data from both sides. Also, students in both partner universities are able to easily access all the necessary information [3,5].

The study programmes that involve student mobility in both universities have been supported by the exchange of guest professors and researchers, which contributed to the improvement of the style of teaching and course offerings. One example is the course “Islam and Engineering” offered to UDE students in Germany and taught by guest lecturers from UKM. In addition, the exchange of academicians allows the set-up of joint research activities in the areas of car production and mechatronics, materials engineering, fuel cells, environmental sciences, renewable power and more. The list of joint research work conducted by both UKM and UDE continues to grow with the increasing exchange of academicians between the two universities. Over the years, the yearly number of academicians travelling from both directions has increased. During recent years, this number has never been below 10 per year in both universities. Some of the visiting academicians stay longer as guest lecturers and spend at least a semester at the partner university.

2.2 Double Degree Programme for joint PhD/Dr.-Ing.

The bi-national PhD programme between UKM and UDE was first launched in December 2010 to increase research-related cooperation. This programme, called ‘PromISE,’ offers doctoral candidates the unique chance to get a double degree as PhD, execute research in an international scientific environment and become familiar with

different cultures. The programme is designed as a research project for 3 to 4 years, accompanied by courses and colloquia.

The research projects are interdisciplinary by nature, combining different fields of science either within the Faculty of Engineering or within other faculties. All topics have the strong support of both partner universities and their respective societies. All projects are supervised by two professors, one from each university. Research is executed in both universities following the so-called sandwich scheme. These arrangements will be specified in the Cotutelle Agreement.

PromISE is structured in stages with an overall duration of 3 to 4 years. Spending at least one year at each partner university is compulsory. To guarantee success within a short time, one should enter PromISE after obtaining a master's degree in ISE (International Studies in Engineering) at UDE or through a similar programme at UKM.

Some actual research clusters implemented in 'PromISE' are:

- Numerical methods with a broad field of application, from mechatronics and construction in building technology to simulation of different technical problems
- Environmental sciences with emphasis on water and waste management
- Advanced materials
- Prefabricated construction and building physics
- Power systems and distribution
- Communication
 - as technical implementation
 - between humans and cultures
 - interrelation of technical and human aspects

2.3 Research

Research and development projects have been jointly executed on different levels:

- a) subjects in engineering through several members of the cooperating engineering departments, and
- b) the international cooperation on related issues.

Regarding engineering subjects, partnerships with industries have been established. An MoU with Infineon was signed in 2012 for the execution of joint research projects. Also in 2012, the German company Zwick/Roell opened a materials testing lab at UKM to conduct research and provide services in Malaysia. Another example is the cooperation with DRB-Hicom on issues related to materials technology. Another development made was in waste management which led to the project 'UKM – Zero Waste Campus' that is now in full operation. Joint projects in environmental sciences are also covered by this partnership with the participation of several teams.

On research issues involving teaching and cooperation, teams from UKM and UDE acted as main partners in a collaborative project funded by the European Community Intercultural Communication under Asia-Link. The project was European-ASEAN Credit Transfer System (EACTS). The project included two additional partners, namely, Universitas Indonesia and University of Parma, Italy [6-8].

Apart from the above projects, UKM also sponsored an important project to support the mobility scheme in engineering under the title 'Integration of Intercultural Communication in Engineering Education: Preparing for Educational and Professional Mobility between Malaysia and Germany.' This project was followed by more UKM-funded projects such as

- Impact of Academic Exchange on Employability and Personality Development of Engineering Graduates
- Intercultural Communication Skills for Engineering Students
- UKM's Window to Europe

- Strengthening the UKM Internationalisation Agenda by Increasing the Number of Foreign Students from Developed Nations on the UKM Campus
- Implementation of UKM-UDE Double Degree Programme in Manufacturing Engineering
- Participation in Innovative Activities by Local and International Students to Enhance Generic Skills of UKM Engineering Students

These activities affirm the understanding between UKM and UDE that universities shall always apply the key principle of unity in teaching and research, which is of special importance for the engineering sciences that have to combine the transfer of knowledge with the exposure of students to subject matters in real life and creating innovative solutions [9-11].

2.4 Institutionalisation by way of mutual Liaison Offices

In 2002, the UKM-Mercator Office and the Multimedia Lab (UKM-MO) were established and funded by Stiftung Mercator GmbH, Essen over a period of five years. UKM-MO operates as a liaison office, supporting double degree and exchange programmes and their researchers and helping to establish joint research projects. The two offices merged and was implemented jointly by UDE and UKM on the UKM campus as the UKM-Mercator Office and Multimedia Lab with funding from Stiftung Mercator. It operated beyond the end of its funding in 2007. Today, the office is financed by contributions from UKM and UDE and by its own income. In 2012, UKM-MO moved from its previous location in the Faculty of Engineering building into its new building, with an office space of 125 m² and additional lab space of 125 m². It is fully supported by UKM. The lab operates under the name Global Engineering Lab with the goal of developing tools for industries. The lab also meant to improve cooperation amongst industries of different locations, especially in Europe and Southeast Asia.

In 2010, UKM opened its liaison office at UDE, which is known as the 'UKM International Office at UDE,' completing the mutual scheme of liaison offices. This office mainly provides support to students and visiting scholars from UKM. It is headed academician and staff employed by UKM.

Linking UKM and UDE via liaison offices was found to be a good investment. Modern forms of Internet-based media are widely available, cheap and versatile. However, without a doubt, all modern media cannot replace face-to-face meetings and discussions. As the distance between Malaysia and Europe is ~10,000 km, liaison offices with permanent staff have proved to be the best solution [12].

2.5 Networking

Similar to its collaboration with UKM, UDE has been in a partnership with Universitas Indonesia (UI) since 1998. The partnership also includes double degree programmes and the exchange and development of research projects. UDE operates a second liaison office, the UI-Mercator Office, with the funding mentioned above. The activities of both partner universities are similar. Due to economic reasons and funding schemes in research and development, Malaysia in general and UKM show a high degree of commitment to pursue common goals. Therefore, UKM-MO has been developed into the headquarters of the Mercator Offices, linking UDE with other partners in Southeast Asia.

UDE has been in a partnership with Nanyang Technological University (NTU) in Singapore since 2001. This partnership is based mainly on student exchange but has the potential to expand into research and development. Recently, an MoU was established between UDE and the University of Brunei. The strategy of UDE, UKM and its partners is to set up a network of leading universities in Southeast Asia, with the academic members located at a relatively short distance from one another, thereby allowing the said members to cooperate and learn from the different backgrounds and societies of the partner universities.

Since 2011, the Mercator Offices have been partners in the German-ASEAN Science and Technology (GAST) network. GAST is a loose network among German universities active in Southeast Asia; these German universities include TU Munich, RWTH Aachen, TU Darmstadt, Universität Duisburg-Essen and others. This network aims to strengthen the position of the outposts operated by these universities in Southeast Asia through different projects, such as a so-called travelling conference which presents the strengths of German research in Asia and the supporting new collaborations between the academe and industries. The GAST network could disseminate the results of this project to countries in SEA where UDE is not active.

2.6 Quality Management

The national programmes at UKM and UDE are accredited by the Malaysian Qualification Agency and ASIIN, respectively. Additional accreditation of the double degree study courses is not required because it would only result in accreditation by the national agencies mentioned above and would thus be redundant. Through accreditation, the basic conditions for quality management of the joint educational programmes are given, including international recognition in many industrialised nations by way of membership of Malaysia in the Washington Accord.

Quality management has been an issue from the very beginning. For the sake of the management of quality which goes beyond accreditation processes, UKM and UDE have implemented an internal scheme with committees and persons-in-charge, procedures to implement and joint educational offers to present. The liaison offices allow permanent support for students and lecturers. They also check if programmes are running according to the agreed-upon procedures.

Germany has a well-accepted engineering course, especially because it combines research and teaching, and Malaysia, especially UKM, introduced and implemented outcome-based teaching, especially in engineering, in Malaysia. At first, both UKM and UDE recognized that they follow the same goals but are bound to different systems and traditions. However, they decided very early on to accept each other as 'equivalent by goals' and started an eye-level collaboration. Therefore, two public universities that have very different cultures and traditions, and are about 10,000 km apart accepted each other because of their same goals and directions.

From this general understanding, the term 'quality culture' was adopted, combining the acceptance of the rules, regulations and traditions of the partner and the common understanding of shared rules and practices of the academe, which acts as a bridge between both partners. For example, the academe establishes communication related to credit transfer, the conditions for such and mobility schemes. Articles on the issue of quality culture as a philosophy of international cooperation have been published earlier [12-14].

Over the years, the issue regarding the quality of the joint academic programmes became the subject of research from many aspects like credit transfer, recognition of exams and degree and the overall operation of the mobility scheme as part of the collaboration between UKM and UDE. Various projects and publications contributed to this development.

An internal measure meant to control and adjust the quality of the programmes offered was established in 2011 by way of an extensive SWOT analysis which took place through a one-day workshop attended by numerous persons from management or higher-level departments. The participants rated the state of the collaboration and identified points for improvement in the future. The results provided key points and remarks for further discussion and gave the participants a reason to reflect on various aspects of the collaboration.

In 2012, an evaluation was conducted by three external assessors. The members of the partnership received an extensive report on the development of the collaboration. Based on this report, a two-day audit was conducted at UKM. The audit finished with an overall positive result and provided extensive feedback on the status of the collaboration and the points to be taken into account for further improvement. The audit also provided advice from an external point of view.

3. Lessons learnt

The partnership between UKM and UDE experienced numerous ups and some downs; on the average, it showed permanent growth and development. One of the challenges faced in earlier times was the fact that the cultures of Southeast Asia (Malaysia) and Europe (Germany) are very different. This difference required the partners to learn and adapt. At first, the educational system, academic structure and operation and style of teaching appeared similar. However, after longer and deeper collaboration, many differences became obvious. Nevertheless, the ever-growing understanding led to stable understanding and cooperation, which motivated the partners to come up with new joint activities [15].

The close collaboration described above did need time to develop; this is one important fact resulting from experience. In international collaborations between universities, such as the existing eye-level collaboration between UKM and UDE, the partners need to constantly discuss and define common goals. Some obstacles and setbacks may exist, but if the partners believe in their goals, they can adapt, try again and finally reach a higher level of academic quality. Therefore, the most important elements in a partnership are committed academicians on both sides and ample time to learn and develop the partnership.

The major challenge in a partnership is success. The large number of mobile students on both sides, as it grew over the years, forced the partners to look for more funding and to extend the roles of their liaison offices. However, this challenge is welcome as it demonstrates that all developments are on the right track, thereby attracting more and more students and academicians.

4. Perspectives

The next step is to put all the academic offerings, which have been developed independently over the years, together and combine them in a complete list from bachelor's to master's and then to PhD/Dr.-Ing degree. Based on the Bologna process in Europe and following the traditions of engineering education in Malaysia where UKM pioneered new innovations in engineering education, the next steps are:

- Offer a continuous stream of courses from bachelor's degree to PhD in technical education based on German teaching traditions and values in engineering sciences (executed jointly by UKM and UDE)
- Strengthen the unity between teaching and research
- Link Malaysia and Germany through double degree and exchange programmes to increase mutual cultural awareness and generate more economic and business opportunities.

5. Summary

In this paper, the sustainable partnership between UKM and UDE, public universities from Southeast Asia and Europe, was discussed. Sustainability is demonstrated by the following:

- **Tools and processes:** Different tools (for the development of double degree programmes, databases, Web sites) have been used for the operation and development of joint study programmes between the remote partners. Procedures for transparent and efficient service have been developed between the partners and their liaison offices.
- **Experiences and adjustments:** Based on experience gained during the more than 10 years of operation of the double degree study courses, adjustments were developed. Because of these adjustments, the double degree courses are currently very stable and attractive. This demonstrates the excellent partnership between UKM and UDE.
- **Institutionalisation:** With regard to content, the joint study offers are widely appreciated.
- **Quality management:** Based on different measures, feedback from results and the control of the procedures, enhancements are being developed and implemented. Facilities for the permanent

implementation of the joint study offers were introduced to enable the stable operation of the joint courses. All together, a quality culture has been developed between the partners.

- **Finances:** Basic funding for the implementation of the programmes is provided by the two partners, UKM and UDE, and via projects and support from third parties.

References

- [1] Hunger, A., Shamsuddin, A.H. Nordin, M.R., Setiabudi, R. Academic Co-operation between Germany and Asian Pacific Countries - Experiences and Future Trends. *APA (Asien-Pazifik Ausschuss der Deutschen Wirtschaft) Summit*, Kuala Lumpur , 2000.
- [2] Hunger, A. German Engineering Education – Traditions and recent developments. *Keynote Address at World Engineering Congress 2002 (WEC 2002)*, Kuching, Malaysia, 22-25. July 2002
- [3] Werner, S., A. Hunger, K. Ramli, A.H. Shamsuddin. *A GMU-UKM-UI International Academic Cooperation- Creating an International Ingredient of Engineering Education. In Proceedings of the 2nd World Engineering Congress (WEC 2002)*, Sarawak, Malaysia, 2002.
- [4] Muchtar, A., M.Z. Omar & A. Hunger. Lessons from the Joint UKM-UDE (Malaysia-Germany) Student Mobility Programs. *European Journal of Social Sciences*, 2009, 8(3): 413-419.
- [5] Axel Hunger, Stefan Werner, F. Astha Ekadiyanto. Towards an automated tool for assisting the design of double degree programs. *Accepted at International Forum on Engineering Education 2012 (IFEE 2012)*, Kuala Lumpur, Malaysia, 20-22 Nov. 2012.
- [6] Muchtar, A., M.Z. Omar, S.A. Russly, A. Hunger, N.A. Nik Mohamed & M. Ismail. Success and Challenges of Asia-Link Project and Lessons for ASEAN. *The 9th AUN-QA Workshop on "Mechanism for ASEAN Credit Transfer System" and The 3rd Actual Quality Assessment at Programme Level, Dec 2008*, Universitas Indonesia, Jakarta.
- [7] Ismail, M., A. Hunger, K. Ramli, R. Menozzi, I. Skalbergs, S. A. Russly, A. Muchtar & N.A. Nik Mohamed. Challenges ahead for EACTS; Implementation and Dissemination of a new Credit Transfer System. *In Proc. The 11th UNESCO-APEID International Conference on Reinventing Higher Education*, Bangkok, 2007, pp. 45.
- [8] Ismail, M., A. Hunger, S.A. Russly, A. Muchtar, N. Nik Mohammed, B. Budiardjo, C. Morandi, I. Skalbergs, P. D. Purnamasari & R. Menozzi. Comparison of Curricular Content for the Electrical, Electronics and Computer Engineering Bachelor Program within European-ASEAN Credit Transfer System (EACTS) Network. *In Proc. International Conference on Engineering Education and Research*, Melbourne, Australia, 2007, pp. 34-35.
- [9] Andanastuti Muchtar, Mohd Najib Redzuan Lee, Shahrum Abdullah, Khairul Anwar Mastor, Axel Hunger. Frequency analysis of personality development in Malaysian engineering students influenced by German sojourn. *Accepted at International Forum on Engineering Education 2012 (IFEE 2012)*, Kuala Lumpur, Malaysia, 20-22 Nov. 2012.
- [10] Khairul Anwar Mastor, Junaenah Sulehan, Jamilah Mustafa, Latiffah Pawanteh, Hassan Basri, Shahrum Abdullah, Andanastuti Muchtar, Zulkiple Abd Ghani & Axel Hunger. Personality Traits Orientation of Universiti Kebangsaan Malaysia (UKM) and University Duisburg-Essen (UDE) Engineering Students. *Procedia Social and Behavioral Sciences*, 2011, **18**: 196-203.
- [11] Jamilah Mustafa, Junaenah Sulehan, Latiffah Pawanteh, Shahrum Abdullah, Hassan Basri, Andanastuti Muchtar, Khairul Anwar Mastor, Zulkiple Abd Ghani, Axel Hunger. Internationalisation and Its Implications for Intercultural Maturity among Academic Staff: A Case Study. *Kongres Pengajaran dan Pembelajaran UKM 2010. In: Elsevier, Procedia Social and Behavioral Science*, 2010, **18** : 575-584.
- [12] Axel Hunger & Andanastuti Muchtar. Part II: Challenges in the Institutional Context of EU-Asian Academic Collaborations, Chapter 2.2. Quality Assurance: A case study. In *Links That Matter: Recurring Themes in EU-Asian Higher Education Cooperation*, Jenneke Lokhoff & Nico Evers (Eds), *EU-Asian Higher Education Platform*, 2010, (pp. 26-36).
- [13] Axel Hunger & Andanastuti Muchtar. Double degree programme & Student Mobility as Integral Part of Academic Cooperation between UKM & UDE – Malaysia & Germany. *Invited presentation at EAHEP Workshop on 'Student Mobility, Joint Degree Programmes and Institutional Development'*, 16-17 February 2009, Crowne Plaza Mutiara Kuala Lumpur, Malaysia. 2009.
- [14] Hunger, A., & Skalbergs, I. Promotion of Quality Culture in international cooperation with special focus on joint programmes. *In: Embedding Quality Culture in higher education – a selection of papers from the 1st European forum for quality assurance*, Munich, 23-25-Nov. Published by European University Association p. 2007, 40-46

- [15] Hunger, A. Developments in Engineering Education in Germany – Traditions vs. Internationalisation. *3rd ASEE (American Society for Engineering Education) International Colloquium on Engineering Education*, Beijing, 7-10 Sept. 2004.